Extender for HDMI™ 1.3 over one CAT-6

EXT-HDMI1.3-1CAT6

User Manual

www.gefen.com

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Notice

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INTRODUCTION

Congratulations on your purchase of the Extender for HDMI 1.3 over one CAT6. Your complete satisfaction is very important to us.

Gefen

Gefen delivers innovative, progressive computer and electronics add-on solutions that harness integration, extension, distribution and conversion technologies. Gefen's reliable, plug-and-play products supplement cross-platform computer systems, professional audio/video environments and HDTV systems of all sizes with hard-working solutions that are easy to implement and simple to operate.

The Gefen Extender for HDMI 1.3 over one CAT6

The Gefen Extender for HDMI 1.3 over one CAT6 will send a 1080p@60Hz HDMI 1.3 signal, with Deep Color support, over a single CAT-6a cable to distances of up to 175 feet (50m). HDMI 1.2 is still fully supported and can be extended up to 200 feet (60m).

Extension of high definition can now be simplified with the use of only a single CAT-6a cable. Previous solutions used two cables to accomplish this.

The Gefen Extender for HDMI 1.3 over one CAT6 supports the HDMI 1.3 specification with features such as Deep Color, Full 1080p HD and compressed lossless audio formats such as Dolby TrueHD and DTS-HD Master Audio.

The CAT6 extender's pure digital transmission method insures 100% signal integrity over this single cable extension solution.

How It Works

The Gefen Extender for HDMI 1.3 over one CAT6 system consists of send and receive units. The HDMI source (set-top box, DVD player, or gaming console) connects to the sender unit with the supplied 6-foot HDMI cable. The receiver unit connects to an HDTV display. One CAT-6a cable links the sender and receiver together at distances of up to 200 feet. Power is applied to both the sender and receiver with the included 5V DC power supplies. A perfect image is now displayed on the remote HDTV display.

Note: This product is an HDCP pass-through device.

OPERATION NOTES

READ THESE NOTES BEFORE INSTALLING OR OPERATING THE EXTENDER FOR HDMI 1.3 OVER ONE CAT6

- The Extender for HDMI 1.3 over one CAT6 was designed for use with high quality CAT-6a (augmented) cabling. This unit will either not perform to specification or refuse to operate completely if cabling other than CAT-6a is used.
- When field terminating CAT-6a cabling please adhere to the TIA/EIA-568-B specification. Please see page 9 for more information.
- The Extender for HDMI 1.3 over one CAT6 has a maximum distance rating based on the bandwidth (i.e. resolution and color) of the video being transmitted. The following specifications are based on high quality CAT-6a cabling.
    - 175 feet (50 meters) at 1080p/60Hz with HDMI 1.3 up to 12-bit color depth (Deep Color supported) with all HDMI 1.3 audio formats supported.
    - 200 feet (60 meters) at 1080p/60Hz with HDMI 1.2 up to 8-bit color depth with all HDMI 1.2 audio formats supported.
- The Extender for HDMI 1.3 over one CAT6 is HDMI 1.3 and HDMI 1.2 compliant.
- This product features HDCP pass-through.
- By default, Deep Color support is disabled. To enable Deep Color support please see the DIP switch configuration guide on page 9.

FEATURES

Features

- Flexible extension of high-bandwidth HDMI 1.3 thanks to inexpensive and widely-available CAT6 cable
- Audio and video are transmitted digitally over the CAT6 cable for zero signal loss
- Single Link Range (maximum resolution): 1080p/60, 12-bit color depth
- Compliant with HDMI 1.3, HDMI 1.2, HDCP 1.1 and DVI 1.1 standards
- Supports digital video formats in Deep Color Mode at up to 12bits/color
- Supports lossless compressed digital audio (Dolby TrueHD, Dolby Digital Plus and DTS-HD Master Audio)
- Equalizes incoming HDMI signal and retransmits it with optimal quality regardless of incoming signal quality
- Eliminates equipment noise in the viewing environment
- Improved compensation for cable skew

HDMI 1.3 Features Supported:

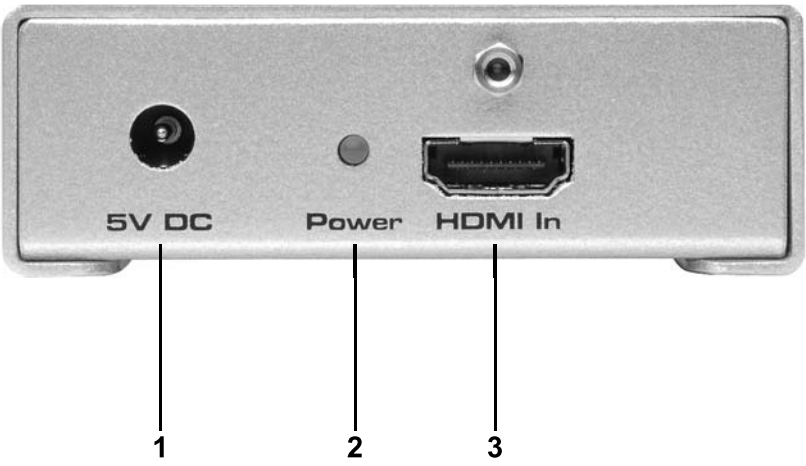
- Dolby TrueHD & DTS Master Audio
- Deep Color Supported (XV Color)
- 225 MHz (up to 12 bit YUV 444 @ 1080p)
- CEC Protocol Pass Through
- Lip-Sync Pass Through

Package Includes

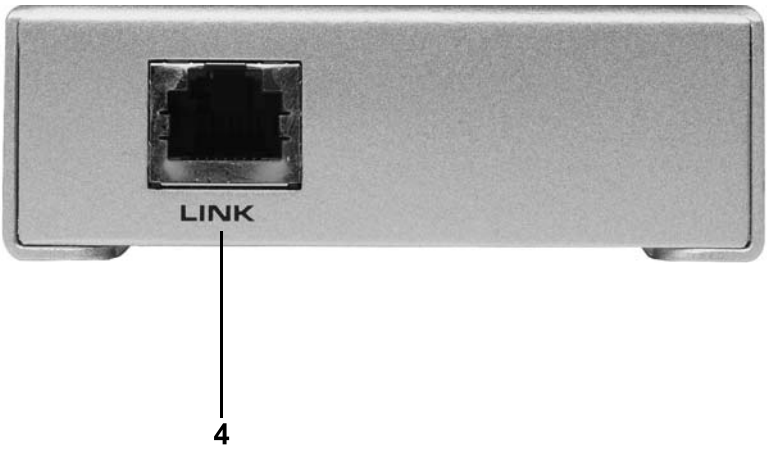
(1) Extender for HDMI 1.3 over one CAT6 Sender
(1) Extender for HDMI 1.3 over one CAT6 Receiver
(1) 6 Foot HDMI to HDMI Cable (M-M)
(2) 5V DC Power Supply
(1) User's Manual

SENDER PANEL LAYOUT

Front Panel



Back Panel



SENDER PANEL DESCRIPTIONS

1 5V DC Power Receptacle

Connect the included 5V DC power supply between this input and an open wall power socket.

2 Power LED Indicator

This LED will become active once the included 5V DC power supply is properly connected between the unit and an open wall power socket.

3 HDMI Input With Mono•LOK Secure Connector

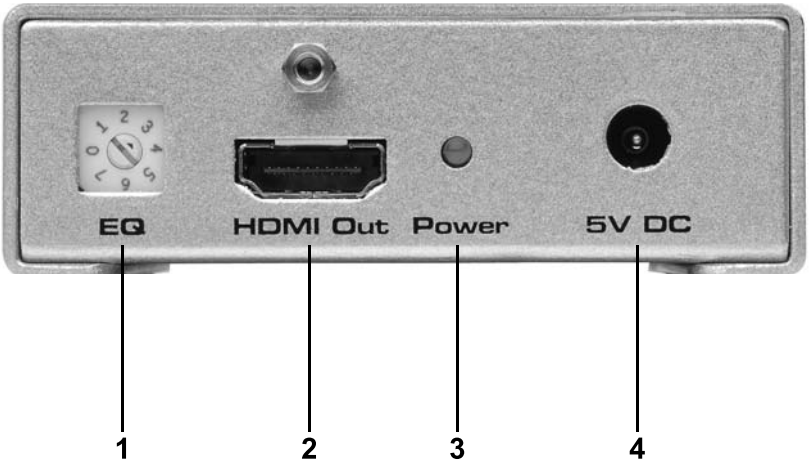
This input will accept a single HDMI source for extension. This input features a Mono•LOK connector (Gefen part# CAB-HDMI-LCK-XXMM) for a secure cable connection. This input will accept a standard or Mono•LOK style HDMI cable.

4 Link RJ45 Port

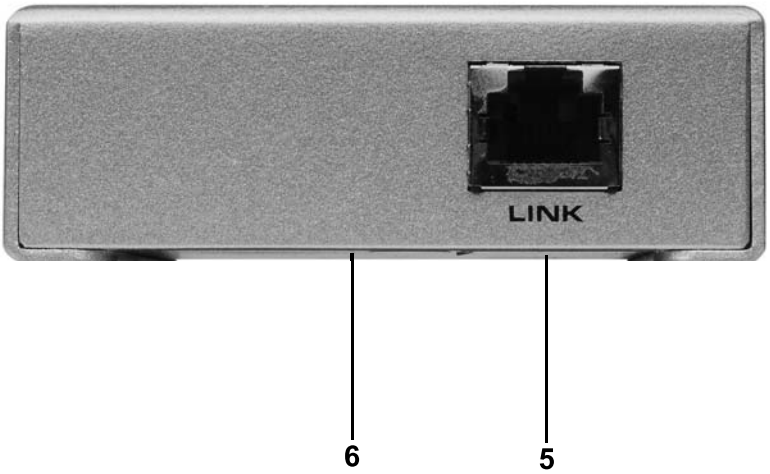
This port is used to connect the sending and receiving units together using a CAT-6a cable.

RECEIVER PANEL LAYOUT

Front Panel



Back Panel



RECEIVER PANEL DESCRIPTIONS

1 Equalization Adjustment

This trimpot is used to equalize the signal to compensate for the extension distance and the quality/skew variances that are found in different CAT-6a cabling brands.

2 HDMI Input With Mono•LOK Secure Connector

This input will accept a single HDMI source for extension. This input features a Mono•LOK connector (Gefen part# CAB-HDMI-LCK-XXMM) for a secure cable connection. This input will accept a standard or Mono•LOK style HDMI cable.

3 Power LED Indicator

This LED will become active once the included 5V DC power supply is properly connected between the unit and an open wall power socket.

4 5V DC Power Receptacle

Connect the included 5V DC power supply between this input and an open wall power socket.

5 Link RJ45 Port

This port is used to connect the sending and receiving units together using a CAT-6a cable.

6 DIP (Dual Inline Package) Switches Bank

Underneath the Receiver beneath a small silver-grey sticker is a bank of small white plastic switches used for advanced system configuration options such as EDID modes and Deep Color settings. Please see page 9 for full details.

How to Connect the Extender for HDMI 1.3 over one CAT6

1. Connect a HDMI cable (one is supplied) between the HDMI output on a HDMI source device and the HDMI input on the *Extender for HDMI 1.3 over one CAT6* ***sending unit*****.**

2. Connect a single CAT-6a cable between the sending and receiving units.

NOTE: When field terminating CAT-6a cabling please adhere to the TIA/EIA-568-B specification. Please see page 11 for more information.

3. Connect a HDMI cable (user supplied) between the HDMI input on a HDMI capable output device (i.e. HDMI display) and the HDMI output on the *Extender for HDMI 1.3 over one CAT6* ***receiving unit*****.**

4. Connect the included 5V DC power supplies (two are included) between the sending and receiving units and open wall power sockets.

5. Initialize the HDMI output device (i.e. HDMI display) first and the HDMI source device last.

How to Equalize the Extender for HDMI 1.3 over one CAT6

The *Extender for HDMI 1.3 over one CAT6* ***receiving unit*** has a equalization Trim to compensate for the extension distance and the quality/skew variances that are found in different CAT-6a cabling brands. If there is no output video or if output video has video artifacting and/or video noise, please use the steps below to adjust the equalization trimpot.

1. Insert a small flat head tool into the trimpot on the front panel of the ***receiver unit*****.**

2. The trimpot has 8 set positions. Turn the trimpot in a clockwise fashion until it clicks into the next position. Continue adjusting the trimpot by trying all 8 positions until the issue is resolved.

3. Carefully remove the adjustment tool.

DIP SWITCH CONFIGURATION – DEEP COLOR

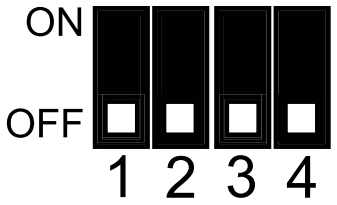
By default, Deep Color support is disabled (DIP #2 in the OFF position). If Deep Color support is needed, you can change the position of one of the DIP switches on the bottom of the receiver. When setting the position of the DIP switches, please use gentle force and use a small pointed object such as the head of a mechanical pencil without the lead extended or a small screwdriver to move the switches up or down.

1. If the Receiver unit is currently being powered, please disconnect the power adapter from the unit.

2. Turn the receiver unit upside down and locate the 4-DIP switch bank on the bottom of the unit. NOTE: You may need to remove the piece of silver colored metallic tape to expose the DIP switch bank.

3. Refer to the image below and locate DIP #2 on the DIP switch bank.

DIP Switch Diagram



4. Move DIP 2 to the “ON” position. This will enable Deep Color support and will be used only if the display supports this deep color. NOTE: DIP 1 must be in the “OFF” position in order to enable deep color.

5. Reconnect power to the receiver unit.

DIP SWITCH CONFIGURATION – EDID

Under normal circumstances, a source device (digital and analog) will require information about a connected device/display to assess what resolutions and features are available. The source can then cater its output to send only resolutions and features that are compatible with the attached device/display. This information is called EDID (Extended Display Information Data) and a source device can only accept and read one EDID from a connected device/display. Likewise, the source can only output one resolution for use by a connected device/display.

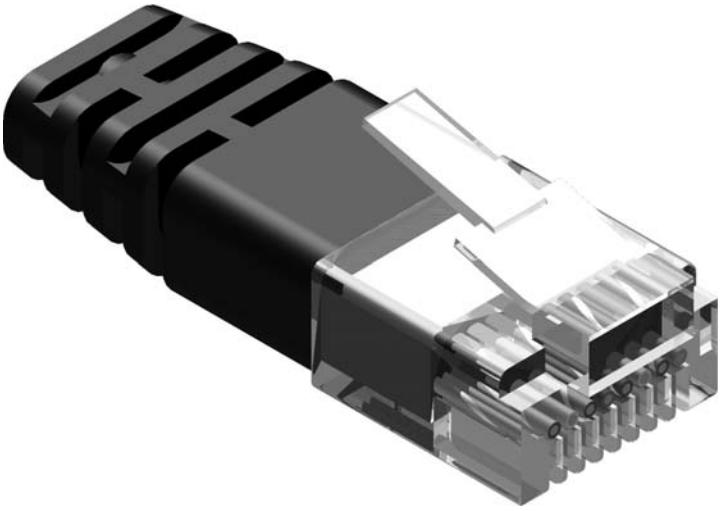
The Extender for HDMI1.3 over one CAT6 uses DIP #1 to control EDID modes. There are 2 EDID modes; LOCAL and PASSTHROUGH. The LOCAL mode will create a new EDID by copying all video and audio features of the connected device but will allow the user to control Deep Color support by the procedure on the previous page. By default, the unit is shipped in LOCAL mode where DIP #1 is in the OFF position. The PASSTHROUGH mode will simply allow all video and audio features of the connected device to pass through to the source device without control over Deep Color support. DIP #1 can be switched to the ON position to enable the PASSTHROUGH mode. However, if DIP #1 is switched to the ON position, enabling Deep Color (DIP #2=ON) will not affect the video features of the EDID.

When switching DIP #1 between the OFF and ON position, please follow the procedure outlined below:

1. Disconnect power from the receiver and locate the DIP switch bank on the bottom of the unit. NOTE: You may need to remove the piece of silver colored metallic tape to expose the DIP switch bank.

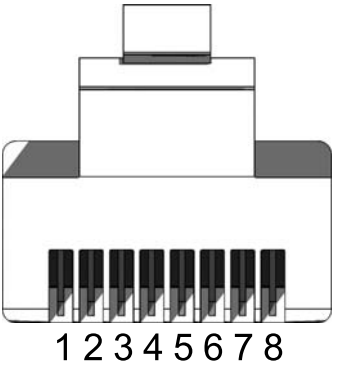
2. Refer to the DIP switch diagram (page 9, middle) and while referring to it, locate DIP #1 on the DIP switch bank. Move DIP #1 to the “ON” or “OFF” position. The “OFF” position will use the LOCAL EDID mode. The “ON” position sets the unit in PASSTHROUGH mode, allowing the source to use the original EDID features of the display.

3. Reconnect power to the receiver unit.



Gefen has specifically engineered their products to work with the TIA/EIA-568-B specification. Please adhere to the table below when field terminating cable for use with Gefen products. Failure to do so may produce unexpected results and reduced performance.

Pin	Color
1	Orange / White
2	Orange
3	Green / White
4	Blue
5	Blue / White
6	Green
7	Brown / White
8	Brown



This product was designed for use with CAT-6a (augmented) cabling only. This unit will either not perform to specification or refuse to operate completely if cabling other than CAT-6a is used.

Each cable run must be one continuous run from one end to the other. No splices or use of punch down blocks.

SPECIFICATIONS

Video Amplifier Bandwidth ..... 225 MHz

Single Link Max. Resolution .....1920x1200 and 1080p/60, 12 bit color

Input DDC Signal ..... 5 Volts p-p (TTL)

Input Video Signal ..... 1.2 Volts p-p

HDMI Connector ..... Type A, 19 Pin Female

Link Connector ..... RJ-45 Shielded

Power Supply ..... 5V DC

Power Consumption ..... 10 Watts (per unit)

Dimensions ..... 3.3” W x 1.3” H x 3.3” D

Shipping Weight ..... 3 lbs.

WARRANTY

Gefen warrants the equipment it manufactures to be free from defects in material and workmanship.

If equipment fails because of such defects and Gefen is notified within two (2) years from the date of shipment, Gefen will, at its option, repair or replace the equipment, provided that the equipment has not been subjected to mechanical, electrical, or other abuse or modifications. Equipment that fails under conditions other than those covered will be repaired at the current price of parts and labor in effect at the time of repair. Such repairs are warranted for ninety (90) days from the day of reshipment to the Buyer.

This warranty is in lieu of all other warranties expressed or implied, including without limitation, any implied warranty or merchantability or fitness for any particular purpose, all of which are expressly disclaimed.

1. Proof of sale may be required in order to claim warranty.

2. Customers outside the US are responsible for shipping charges to and from Gefen.

3. Copper cables are limited to a 30 day warranty and cables must be in their original condition.

The information in this manual has been carefully checked and is believed to be accurate. However, Gefen assumes no responsibility for any inaccuracies that may be contained in this manual. In no event will Gefen be liable for direct, indirect, special, incidental, or consequential damages resulting from any defect or omission in this manual, even if advised of the possibility of such damages. The technical information contained herein regarding the features and specifications is subject to change without notice.

For the latest warranty coverage information, please visit Gefen's Warranty web page at http://www.gefen.com/kvm/aboutus/warranty.jsp

PRODUCT REGISTRATION

Please register your product online by visiting Gefen's web site at http://www.gefen.com/kvm/Registry/Registration.jsp

Rev B3

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